

REMARKS

Response to Claim Objections:

Claim 9 has been amended to comply with the formalities of a method claim. It is thus suggested that the amended claim overcomes the objection.

Claims 13 and 14, which are dependent on claim 12, recite a globalCommit in contrast with claim 12 which was previously amended to recite a two-phase commit. This is not a contradiction as a distributed system using a two-phase commit protocol implies the presence of a global commit function. Reconsideration is requested.

Response to Claim Rejections

35 USC § 101

The rejection of claims 6, 7, 12-14, 18, and 23-37, is overcome by the amendments made to independent claims 6, 12, 18, and 23. The amended claims 6, 12, and 18 recite a “computer processor,” and the amended claim 23 recites a “computerized data management system.” This is supported in the specification as the application discloses server and client computers in Figures 1, 3, 4, 5, and 6.

35 USC § 102

The rejection made in the office action regarding claims 12-17 as supposedly anticipated by US Patent No. 6,076,078 to Camp et al. (Camp) is flawed because the disclosure in Camp explicitly rejects the use of a two-phase commit protocol in anonymous transactions (col. 3, lines 55-60 and col. 4, lines 20-25). When Camp does reference use of a two-phase commit (col. 8, line 62), Camp does not enable anonymous two-phase commit as evidenced by the requirement of a “signed purchase order” (col. 8 line 64) and the statement that “[t]he two-phase commit protocol requires that at least one party participating in the protocol (the transaction coordinator) knows the identity of all the parties involved” (col. 3 lines 55-57). Furthermore, the disclosure in Camp is flawed in that step 4 of figure 3 was omitted.

Claim 12 is directed to a two-phase commit protocol, and the recitation of a two-phase commit message carrying information about the actual work being committed and capable of anonymous transactions is not disclosed or suggested by Camp. Claim 12 and the dependent claims, 13 and 14, should thus be allowable.

Likewise, claim 15 teaches a method for carrying out transactions that may include anonymous transactions. Thus, claim 15 and the dependent claims, 16 and 17, should be allowable.

The rejection made in the office action regarding claims 18 and 20 as supposedly anticipated by US Patent No. 6,457,065 to Rich et al. (Rich) is flawed because features taught in the previously amended claim 18 are not taught by Rich. Specifically, Rich does not specify the extent to which shared resource access is desired, allowed, or denied among descendant transaction invocations of the root invocation or user and other, concurrent transaction invocations which also descend from the same root.

Claim 18 teaches that “the root invocation (transaction) propagates the concurrency preferences with each or any child invocation it makes; and wherein the propagated concurrency preferences at any level in the root invocation's invocation hierarchy specify the extent to which shared resource access is desired or allowed or denied among descendant transactional invocations of the root invocation or user and other, concurrent transactional invocations who are also descendants of the same root.”

Likewise, claim 20 incorporates the limitations of claim 18. Because these features are not disclosed in Rich, both claims should be allowable.

35 USC § 103

Impermissible combination of Fouquet and Rich

The Office Action states, at paragraph 16 (page 17) that

just because Fouquet was not published until August 7, 2001 does not mean that the concept were not known to one of ordinary skill in the art before or after Fouquet was filed in July 10, 1997.

Because the entire content of Fouquet was maintained in secrecy within the USPTO pursuant to 37 CFR section 1.14, until August 7, 2001, the Applicant's attorney questions the assertion made in the Office Action. Applicant's attorney disagrees with the view (or speculation) that the content of Fouquet was in fact known publicly as of November 2, 2000. Motivated by the case of *In Re Ahlert and Kruger*, 165 USPQ 418 (CCPA 1970) applicant's attorney requests that this ground for rejection be withdrawn. Absent a showing of support for this view, it is requested that the Examiner affirm that Fouquet was in fact unavailable as a reference for purposes of combination with other references as of November 2, 2000.

Likewise, per *In Re Ahlert and Kruger*, the teachings of Rich were not, in fact, known publicly as of November 2, 2000. Applicant's attorney requests that the Examiner also affirm that Rich was unavailable as a reference for purposes of combination with other references as of November 2, 2000.

The impermissible combination of Fouquet and Rich prompts the undersigned to request that the rejections of all of claims 6 through 11 be withdrawn.

Art rejection of Claim 6

Numbered Paragraph 19 (page 18) of the office action argues that Rich shows independently handled transactions.

However, closer inspection of the cited passage in Rich (col. 14, line 6-29), cited below, shows that this view is not supported:

Thus by providing each transaction, and each subtransaction (when appropriate), its own view of a replicated object, each transaction and subtransaction is able to see a completely independent representation of the replicated object that is isolated from any other transaction and subtransaction. In this manner, actions performed relative to a replicated object can be isolated to the transaction or subtransaction performing the actions.

...

The present invention uses versioning of replicated objects to provide these independent views within the scope of a transaction. According to this approach, multiple versions of a replicated object may be used internally in an application program; each transaction and subtransaction may then have independent versions of a replicated object to represent the changes made by that transaction or subtransaction. These multiple internal versions are managed using views, where each transaction and subtransaction may have its own view of a replicated object.

Rich thus discloses that it is *objects* that have independent representations and that can be viewed separately by different transactions. It is however *not* disclosed that each *transaction* local to a process is independently handled at the process, and that each process makes scheduling and recovery decision independent of any centralized component.

Furthermore, the office action does not address the point made by the applicant in the previous response regarding Fouquet. Specifically, Fouquet does not disclose nonconcurrent transactions, Fouquet rather discloses ***concurrent transactions*** which may call ***nonconcurrent operations*** (Col. 2, line 62 to col. 3, line 8).

Careful reading of the cited text shows that "Three transactions [T1, T2, T3] can be initiated in parallel" and goes on to explain how operations used by these concurrent transactions are handled in order to avoid a conflict between the operations. The operations cannot be considered to be transactions, since they do not exhibit transactional behavior.

Furthermore, even if this were the case, then further review of Fouquet shows that the three example transactions T1, T2, T3 shown in Fig. 2 are not children of the same invoking transaction. Rather they are shown in Fig. 2 to be side by side, and unrelated by e.g. a parent transaction. Consequently, Fouquet does not show the limitation

if the first transaction and the second transaction conflict but are both children of a same invoking transaction, then the first transaction and the second transaction are not executed concurrently;

The purpose of Fouquet is to handle operations that by their nature cannot be executed concurrently, e.g. because they interact with the same data (col. 1, lines 37-41). The purpose of the claimed method is to prevent conflicts between child transactions that are called by the same invoking transaction.

For all these reasons, it is requested that the rejection of claim 6 be withdrawn, and with it, the rejection of claim 7.

Art rejection of claims 8 and 10

The Office Action asserts that the two-way combination of Fouquet and Rich supposedly allows the concept of a counter being related to operations to be applied to the nested operations of Rich.

However, even if this application is made, and the Fouquet counter is applied to the nested transactions of Rich, this combination does still not disclose:

propagating from a first process to a second process a message indicative of a globalCommit operation with respect to a root transaction, said message also indicative of a number or identifying list of transactional invocations which the first process has made to the second process on behalf of the root transaction;

within the second process, comparing the number or list indicated in the message with a count or list within the second process of the number or list of transactional invocations which have been made on behalf of the root transaction

in the event the comparison yields a non-match, aborting the transaction.

The Office Action expresses the view (page 10) that the above-cited claim limitations are supposedly taught by Fouquet. However, what Fouquet actually discloses is that:

a counter Cp(PyTx) is associated (block 33) with each particular operation (Py) of the current transaction Tx for which a particular number of conflicting operations has been identified and the value of the counter

associated with a particular operation (block 33) is set to indicate the number of operations conflicting with the latter.

and

The value of the counter associated with this particular operation is decremented (block 35) as and when operations conflicting with the latter terminate (i.e. during the execution of older transactions), reported to the transactional monitor by the reception of an event EvPy(Tz) (block 34), until there are no more conflicting operations. When there are no more operations conflicting with the particular operation, the particular operation can be activated.

(Fouquet col. 3, lines 31-53.) That is, the counter serves to decide if and when just one particular potentially conflicting operation (part of a transaction) may be activated.

The undersigned has diligently studied Fouquet and has been unable to find the claim limitations which the Examiner says may be found in Fouquet. Given the portions of Fouquet quoted above, the undersigned fails to understand how the above-cited claim limitations can be found in the Fouquet disclosure. Motivated by the case of *In Re Ahlert and Kruger*, applicant's attorney hereby questions the view expressed in the Office Action regarding this point and asks for further support and clarification of this point.

In paragraph 13 of the Office Action (page 10), the Office Action asserts that "it would have been obvious to utilize the step of determining whether to abort the transaction as disclosed by Fouquet with the distributed transactions of Rich". This is a misstatement of Fouquet, since Fouquet, as previously discussed, does not disclose aborting a transaction, but rather the activation of an operation, depending on the counter.

In the present invention, said number/counter serves to decide whether or not global commit of the root and all its subtransactions is allowed (or aborted), which is neither disclosed nor suggested by Rich or Fouquet.

For all these reasons it is requested that the rejections of claims 8 and 10 be withdrawn, and with it the rejection of claim 9.

Art rejection of claims 10-11

The aforementioned difference applies to claims 10-11, as well: in each case, the counter according to the invention, and the use of the counter for committing or aborting the global transaction is not disclosed by the Fouquet system, which only uses the counter for controlling an operation which is part of a transaction.

For all these reasons, it is requested that the rejections of claims 10-11 be withdrawn.

Impermissability of combination of Rich and Gupta

While the Examiner rejects all of claims 23-37 as supposedly obvious when compared with a two-way combination of Rich and Gupta, the applicant views such a combination as impermissible. For this combination, the content of both Rich and Gupta would have to have been known publicly as of November 2, 2000. Applicant's attorney is motivated

by the case of *In Re Ahlert and Kruger* , 165 USPQ 418 (CCPA 1970) and applicant's attorney asserts that Gupta was publicly known upon issue of the patent on May 15, 2001 and Rich was first published and publicly known September 24, 2002.

Applicant's attorney requests that the Examiner reconsider and withdraw the rejection because Rich could not have been combined with either Fouquet or Gupta as of the priority date, November 2, 2000, because all three were in fact unavailable as a reference for purposes of combination with other references on that date.

Breadth of interpretation of claims 23-37

It is appreciated that the Examiner is entitled to give claims their "broadest reasonable interpretation." It is respectfully suggested, however, that the Office Action treats claim 23 as if the terms "local" and "remote" were interchangeable, or perhaps as if the terms were not present in the claim at all. To do so would, it is suggested, go past the "broadest reasonable interpretation." It is thus requested that the claim be interpreted so that the terms "locally" and "remote" are indeed treated as distinct words, thereby limiting the scope of the claims. The claims, thus interpreted, are suggested to be distinguishable from prior art.

For all these reasons, it is requested that the rejections of claims 23-37 be withdrawn.

Reconsideration is requested.

Respectfully submitted,

/s/

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